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ABSTRACT

In June 1975, 47 men and 43 women living on commercial farms in Fulton County, Pennsylvania were interviewed regarding their behaviors, beliefs, and attitudes related to preventing cancer and coronary heart disease. Respondents represented about 39% of all adults living on commercial farms in the county. A commercial farm was defined as one that either sold $10,000 or more produce per year or the operator worked more than half time on the farm. During a face-to-face interview setting, each respondent was asked 137 questions pertaining to: the seriousness and susceptibility of the disease, early detection, their knowledge about the disease, high blood pressure, overweight, and medical services. Each person rated eight selected diseases regarding their seriousness and susceptibility. Findings included: cancer was perceived to be the most serious of all eight illnesses with heart disease ranking second; 35% perceived themselves as either likely or very likely to have heart disease; 24% believed themselves likely to have cancer; all the respondents strongly agreed that many types of cancer detected in the early stages could be cured; 2 out of 5 persons could name either 2, 1 or none of the 7 cancer signs; and 99% felt that high blood pressure could be reduced and were aware of 1 or more ways in which this could be accomplished. (NQ)

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HEALTH EDUCATION NEEDS
A SURVEY OF RURAL ADULTS IN FULTON COUNTY
PENNSYLVANIA, 1975
AN INTERIM REPORT

By

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Paper Number 5

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Introduction

Americans spend a great deal of money as individuals each year in efforts to keep healthy. In 1975 this amount is estimated to be 118.5 billion dollars (Abelson, 1976:619). Our magazines and newspapers frequently publish articles about illnesses and their treatment or prevention. The federal government's budget for health research in 1972 was 1.8 billion (Cooper, 1973:7).

Even though health in general is usually viewed as important, all health problems do not have equal importance over time. Through scientific discoveries and technological advances many causes of illness and death have been substantially reduced. One of the most dramatic instances of this in recent times is the use of vaccine for paralytic poliomyelitus prevention. The 1958 peak of 6,031 cases in the United States may be compared with only 40 cases reported a decade later (Langmuir, 1959; Hopkins, 1969). Similarly, the occurrence or seriousness of many other illnesses of an acute nature have been reduced.

Increasing attention is being given to illnesses of a chronic character such as cancer and coronary heart disease. These diseases now rank among the two most frequent causes of death or mortality in the general population of Pennsylvania. (Natality and Mortality Statistics, 1973:v-vi) Further, using arteriosclerosis and hypertensive diseases as a means of estimating the economic costs of heart disease, a 1972 task force report estimates the direct annual cost of these illnesses at $4.3 billion (National Institutes of Health, 138).

For this study, these two most frequent causes of mortality are emphasized. Behaviors, beliefs, and attitudes related to preventing rather than treating these illnesses form the basis for this report.

Source of the Information

In June, 1975 a probability sample of 47 men and 43 women living on commercial farms in Fulton County, Pennsylvania were interviewed. They represented about 39 percent of all adults living on commercial farms in this county. [1]

During a face-to-face interview setting, each respondent was asked 137 questions. The interviewers recorded their responses which were later summarized using Penn State's computer facilities. [2]

Results

Seriousness and Susceptibility

Each person rated eight selected diseases regarding their seriousness and susceptibility. Seriousness was defined in terms of the respondents' personal situation. The individuals' judgement of susceptibility was made on the basis of their own experience, knowledge, and personal observations. Cancer was perceived to be the most serious of all eight illnesses with heart disease ranking second (Table 1). The contrast between these two leading causes of mortality (rows 1 and 2) and headaches and colds (rows 7 and 8) suggests that individuals' judgements of seriousness were reliable.

Further, the high percentage of respondents judging cancer and heart disease as serious or extremely serious (97 and 95 percent respectively) means that educational efforts may be directed at other dimensions of their prevention. People already believe these are serious; now, what should they do about them?

One's motivation to adopt recommended health practices

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[1] A commercial farm is defined as one that either sells $10,000 or more produce per year or the operator works more than one-half of his/her time on the farm. A small number of special cases that did not meet these criteria were included because of other characteristics reported by key informants in the county. Ninety percent of the total number of persons contacted agreed to be interviewed.

[2] The Statistical Programs for Social Sciences system (SPSS, version 6) was used (Nye, 1974).

Table 1. Rating of Seriousness of Selected Diseases
1975 Fulton County Preventive Health
Educational Needs Inventory (N=90)

Disease	Seriousness Rating					
	Extremely Serious	Serious	Depends	Not Too Serious	Not At All Serious	Total
	(Read across for 100 percent)					
Cancer	76	21	2	1	0	100
Heart Disease	61	34	3	0	0	100
Emphysema*	20	67	8	5	0	100
Diabetes*	20	61	12	7	0	100
Glaucoma*	21	58	14	7	0	100
Stomach Ulcers	12	58	22	8	0	100
Headaches*	2	17	39	37	5	100
Common Cold	1	16	23	53	7	100

*Not answering were 1, 1, 3, and 1 person respectively by disease.

Table 2. Rating of the Susceptibility to Selected Diseases
1975 Fulton County Preventive Health Educational
Needs Inventory (N=90)

Disease	Susceptibility Rating					
	Very Likely	Likely	Depends	Unlikely	Very Unlikely	Total
	(Read across for 100 percent)					
Common Cold	30	38	13	18	1	100
Headaches	21	40	10	18	11	100
Heart Disease	9	26	36	27	2	100
Cancer	3	21	38	35	3	100
Stomach Ulcers	10	18	21	33	18	100
Diabetes	8	14	22	48	8	100
Glaucoma	0	12	15	57	16	100
Emphysema	0	12	14	48	26	100

Not answering were 2,2,8,9,6,6,8, and 5 persons respectively by disease.

is not based solely on perceptions of seriousness. Persons may ask,"But, what are my chances of getting sick with this disease?" The data in Table 2 show that 35 percent of the respondents perceive themselves as either likely or very likely to have heart disease. A smaller percentage, 24, believe themselves likely to have cancer. [3] The threat of one of these serious diseases is, thus, sufficiently high to suggest that a sizeable minority of the population studied may be ready to adopt recommended practices to prevent these diseases if they have not already done so.

Early Detection and Knowledge About Cancer

Research on rates of occurrence of cancer and subsequent mortality has shown that "more people die of cancer which could have been cured or prevented than of cancer for which a cure has yet to be found (American Cancer Society,4). Thus, it is important to know how useful persons feel early detection is in cancer treatment. Seventy percent of those responding strongly agreed that many types of cancer detected in the early stages can be cured (Table 3). Not a single person out of 90 disagreed.

In contrast, however, were individuals' knowledge of the warning signals of cancer as suggested by the American Cancer Society (Table 4A). On the basis of immediate recall, two persons out of five could name either two, one or none of the seven signs. On one hand, educators may be encouraged by the high agreement over the usefulness of early detection. On the other hand, current knowledge among this population seems sufficiently low to suggest a continuing need for programs to acquaint persons with the warning signals.

Of specific interest may be signals associated with high rates of occurrence and cure. The estimated number of new cases of cancer per year for the breast and uterus sites are 40 percent of all cases. And, five-year cancer survival rates for these sites are 84 and 82 percent respectively (American Cancer Society, 8). While the data in Table 4B show that the warning signals associated with these sites are known most commonly, the other percentages are still less than 50.

Given that cancer is the leading cause of death among women 30-54 (American Cancer Society,6), this study also asked the 43 women about a pap test. [4] Similar to a national

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[3] This perceived rate may be compared with the national rate of actual occurrence of 25 percent (American Cancer Society, 3).

[4] Pap test here refers to the papanicolaou test for cervical

Table 3. Opinion Rating About Statement: "Many Types of Cancer Detected in the Early Stages Can be Cured." 1975 Fulton County Preventive Health Educational Needs Inventory (N=90)

Opinion	(Percentage)
Strongly Agree	72
Agree a Little	21
Depends	6
Disagree a Little	0
Do Not Know	1
Total	100

Table 4A. Rating on Number of Cancer Signals Recalled 1975 Fulton County Preventive Health Educational Needs Inventory (N=90)

Number of Cancer Signals Recalled Correctly	(Percentage)
None	9
1	20
2	13
3	21
4	14
5	7
6	3
7	12
No Answer	1
Total	100

Table 4B. Respondents' Knowledge of Seven Warning Signals of Cancer by Individual Signals 1975 Fulton County Preventive Health Educational Needs Inventory (N=90)

Signal	Percent Recalling Warning Signal		
	Yes Correct	No Do Not Know	Total
Thickening or lump in breast or elsewhere	77	23	100
Unusual bleeding or discharge	54	46	100
A sore that does not heal	47	53	100
Nagging cough or hoarseness	43	57	100
Obvious change in wart or mole	36	64	100
Change in bowel or bladder habits	27	73	100
Indigestion or difficulty in swallowing	22	78	100

Table 5A. Participation in Selected Preventive Health Practices During the Past 12 Months, Percentages 1975 Fulton County Preventive Health Educational Needs Inventory (N=90)

Preventive Health Practice	Percentage		
	Yes	No	Total
Chest X-Ray	27	73	100
Dental Check-Up[1]	81	19	100
Electrocardiogram (EKG)	16	84	100
Eyes Examined	47	53	100
Blood Test	36	64	100
Urine Test	41	59	100
Pap Test[2]	65	35	100

[1]Excludes persons reporting dentures and not answering, N=16

[2]Women only, N=43

sample of women aged 17 and over, 61 percent of whom had a pap test in the year prior to being interviewed (Vital Statistics, 1975) , 65 percent of the women in this population reported having a pap test in the past year (Table 5A). Those women not having a pap test, when asked why they had not done so, responded most frequently by saying, "I didn't get around to it" or "It was not needed" (Table 5B).

While a few of these persons may not have actually needed a pap smear because of medically sound reasons, surely 60 percent of this category could not be excluded from need for that reason.[3]

It is notable that reasons related to access such as availability and convenience were not cited at all for the pap test while small percentages occur for other preventive health practices in these categories (Table 5B).

The situation may, therefore, be better defined as a problem in education rather than community service access. The educator's task is formidable. It has been demonstrated that for selected situations approximately 10 percent of health behavior is related to health knowledge (Dowell, 1969). Regardless of the fact that cancer is perceived to be serious and early detection is seen as effective, a majority of women in this study population did not place the pap test as a health maintenance behavior high enough among their personal priorities to go and have a pap smear made. The educational programs may, therefore, have to emphasize attitudes as much or more than knowledge.

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cancer.

[3] While some may believe post-menopausal women are not at risk due to uterine or cervical cancers, 1973 data show these cancers rank 4th and 5th respectively as causes of death for women in age categories 55-74 and 75 and over (American Cancer Society, 13).

Table 5B. Non-Participation in Selected Preventive Health Practices During the Past 12 Months, Percentages 1975 Fulton County Preventive Health Educational Needs Inventory

The respondents who replied "no" for a practice in Table 5A were also asked the most important reason for not doing it (barrier to use). For each activity, the percent choosing a barrier are shown in the column, read down for 100 percent.

Barriers to Having the Preventive Work Done In Past 12 Months	Chest X-Ray	Dental Check-Up	EKG	Eye Exam	Blood Test	Urine Test	Pap Test
			(Read down for 100 percent)				
It was not needed...	38	39	54	57	73	77	27
I didn't get around to it...	29	23	14	25	9	6	33
It never entered my mind...	24	0	22	6	9	6	0
It was not convenient...	7	15	5	2	2	2	0
The service was not available or too far away...	2	8	0	0	0	0	0
All other reasons...	0	15	5	10	7	9	40
Total	100 (N=58)	100 (N=13)	100 (N=74)	100 (N=48)	100 (N=58)	100 (N=53)	100 (N=15)

Table 6. Interest in Attending Future Clinics 1975 Fulton County Preventive Health Educational Needs Inventory (N=87)

Interested	(Percentage)
Yes	72
No	28
Total	100

Heart Disease and High Blood Pressure

Heart disease is the leading cause of death in the United States and Pennsylvania. [6] It is not surprising to find, therefore, among farm men and women interviewed for this study a high level of concern. Slightly more than one-third of these persons felt they were likely to have heart disease. Its seriousness as an illness is reflected in that 95 percent saw it as serious or very serious.

Associated with the frequency of occurrence of heart disease are factors such as high blood pressure, overweight and lack of regular physical exercise. Among a national sample of white adults aged 18 to 74 years the prevalence rate for significantly high blood pressure was reported to be (Roberts, 1975:19):

Sex	Age	Rate Per 100 Persons
Men	18-44	21
	45-59	45
	60-74	39
Women	18-44	11
	45-59	29
	60-74	36

Respondents living on farms in this county reported rates of 4 and 5 per 100 for males and females respectively (Table 8). In addition, those persons reporting normal blood pressure were asked about having their blood pressure checked (Table 7). While 100 percent reported having their blood pressure checked at some time in the past, a lower percentage, 88, reported doing so in the past 18 months. Persons in the more susceptible age categories (45 and over), however, have significantly higher rates of blood pressure checks than do those in the 18-44 category.

Eighty-four percent of the respondents reported having their blood pressure checked while visiting a doctor's office. Since 74 percent of all persons interviewed had visited a physician in the past year for either acute or preventive health reasons, it does not seem reasonable to try to increase the blood pressure checking rate by

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[6] While cerebrovascular disease mortality rate in Pennsylvania in 1973 was 105 per 100,000 mid-year population, the heart disease mortality rate for the same year was 440. By comparison, the mortality rates for accidents and cancer (malignant neoplasms) were 42 and 192 (Natality and Mortality Statistics, 1973:6) For further comparison see Jurkat (1974).

Table 7. Year of Most Recent Blood Pressure Check For Persons Reporting Normal Blood Pressure 1975 Fulton County Preventive Health Educational Needs Inventory (N=86)*

Year	(Percentage)
1975	59
1974	29
1973	6
1972 & before	6
Total	100

*Excludes 4 cases reporting high blood pressure.

Table 8. Respondents' Self-Reported Blood Pressure 1975 Fulton County Preventive Health Educational Needs Inventory (N=90)

	(Percentage)
I do have high blood pressure	4
I do not have high blood pressure	96
Total	100

Table 9. Location at Which Blood Pressure Was Checked 1975 Fulton County Preventive Health Educational Needs Inventory (N=90)

Location	(Percentage)
Individual Check-up or Physical Examination	51
While Being Treated for An Illness or Injury	35
Screening Program	4
Other	10
Total	100

encouraging a more uniform application of this practice at such times.

The potential for acceptance of treatment of high blood pressure may be high once it is diagnosed. Nearly all persons interviewed (99 percent) felt that high blood pressure can be reduced and were aware of one or more ways in which this could be accomplished. One may speculate, nevertheless, that the actual treatment regimen involving daily medication may involve considerable problems. Instituting a practice to the level of a habit clearly depends on more than knowing that the medication, once taken, has the desired effect.

Heart Disease and Overweight

While this study did not include physiological measures of overweight or obesity, it did inquire into dietary and weight control practices and feelings. Approximately two-fifths of the farm men and women reported never or only occasionally consciously observing dietary rules (Table 10). When the answers for men and women were examined separately, significant differences were found. As health educators and nutritionists might have predicted, only 26 percent of the women do not observe dietary rules while fully 54 percent of the men reported non-observance.

In addition, respondents evaluated the degree of difficulty they had in regulating their diet (Table 11). Only one out of four persons felt that dietary regulation was difficult (25 percent for men and 22 percent for women). While no statistical data are available to verify the generalization, interviewers observed that men frequently said it was easy to regulate their diet because they just ate what their wives put in front of them.

Further, only three percent of those interviewed said they would be bothered by having others know they were trying to control their weight.

The results of a program for detecting health problems among adults living in rural areas of Pennsylvania show that obesity is the most important problem among persons screened. (Pa. Dept. Agric.:6) The facts obtained by the present study suggest two conclusions. First, if the incidence of obesity among these farm men and women is at all similar to the population in the health problems screening program, there surely is an excessive degree of risk of heart disease being borne by the respondents. Second, while a sizeable minority of respondents may already be following recommended dietary practices to attain or maintain desirable weight levels, a significant majority of men appear to feel their diet is either not of concern to them or it is controlled by their spouse.

Table 10. Dietary Practices Followed
1975 Fulton County Preventive Health
Educational Needs Inventory (N=90).

	Never or Occasionally	Depends	Usually or Always	Total
	(Read across for 100 Percent)			
Careful Eater (1)	42	7	51	100
Regulate Diet (2)	39	8	53	100

(1) "I am careful about what I eat."
(2) "I regulate my diet to keep healthy."

Table 11. Difficulty in Regulating Diet, Getting Physical Exercise and Taking Medicine*
1975 Fulton County Preventive Health
Educational Needs Inventory (N=90).

	Very Easy or Easy	Average	Difficult or Very Difficult	Total
		(Read across for 100 Percent)		
Diet	53	28	19	100
Exercise	90	10	0	100
Medicine	74	20	6	100

*"How difficult would it be for you to do each of these:
(a) regulate your diet
(b) get regular physical exercise
(c) take medicine on a regular basis?"

Perhaps the relationship between heart disease and obesity is not as well known or understood as that between high blood pressure and heart disease. Even though one can demonstrate that food selection by the wife is heavily contingent on the preferences of the husband, many men may believe they do not influence the kinds and amounts of foods served.

Medical Services

Although availability of medical services was not central to the question assessing the preventive health education needs of the rural farm population in Fulton County, the topic is of sufficiently broad interest to be studied and discussed. As may be seen in Table 12B, 85 percent of those responding felt that they could get a doctor's help when they really needed it. Similarly, 78 percent agreed that it is easy to get medical treatment when they need it.

On a slightly different issue, respondents assessed their probable use of allied health personnel (Table 12A). Perhaps of greatest interest in this era of the mid-level practitioner (medical associate, physician's assistant, nurse practitioner) is the fact that 86 percent of those interviewed indicated a willingness to consider treatment by these persons.

Table 12A. Rating on Attitudes Toward Allied Medical Personnel 1975 Fulton County Preventive Health Educational Needs Inventory (N=90).

	Registered Nurses Can Treat Some Diseases (1)	Would Go To A Registered Nurse (2)	Would Accept Help From A Medical Aide (3)
	(Read down for 100 Percent)		
Always or Usually	29	28	59
Depends	30	43	27
Occasionally or Never	41	29	14
Total	100	100	100
Number Not Answering	3	1	1

(1) "Registered nurses or doctor's assistants could treat some of my sicknesses."
(2) "I would go to a registered nurse for medical help if it were possible."
(3) "I would accept medical help from a health aide working under the direct supervision of a doctor."

Table 12B. Perception of Availability of Medical Services 1975 Fulton County Preventive Health Educational Needs Inventory (N=90).

	Doctor's Help Available (1)	Medical Treatment Available (2)
	(Read down for 100 Percent)	
Agree Very Much	53	47
Agree a Little	32	31
Depends	10	16
Disagree a Little	3	3
Disagree Very Much	2	3
Total	100	100

(1) "I can get a doctor's help when I really need it."
(2) "It is easy to get medical treatment when I need it."

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